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A sketch on the morphosyntax of Kadorih (Dohoi: Austronesian) *

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0 Overview

This paper describes Kadorih morphology and morphosyntax, which have never before been sufficiently documented or analyzed.

Starting with the phonological identification of affix forms and affixation processes (§ 2.1), some complex affixes will be analyzed from a morpho-phonological perspective, resulting in the division of Kadorih morphosyntactic affixes into 4 types (§ 2.2), *1st slot prefix* (*bV-, hV-*), *infix* (*-Vn-*), *2nd slot prefix* (*kV-*) and *plain prefix* (*N-, pV-, tV-*).

At the end of the preliminary section § 2.3, syntactic transitivity and three clause types in Kadorih will be discussed in order to explore each affixed form morphosyntactically (§ 3).

This paper's summary in § 4 includes a concise table of the affixes, focusing on each affix type, affix form, transitivity, volition and possible clause type.

1 Introduction

1.1 Background

Kadorih ('Dohoi' or 'Ot Danum') is spoken in the upper areas of Central Kalimantan, Republic of Indonesia by about 25,000 people according to Gordon (2005).

It is unclear where Kadorih is spoken, however Inagaki (2005b, p. 16) provided some possible areas of Kadorih speakers by summarizing the previous studies of a wordlist (Stokhof, 1986), a comparative study (Hudson, 1967), sociolinguistic reports (Meyers et al. 2003 and Riwut 1993) and language documentation (Santoso et al. 1984 and Taib et al. 1990). (1) shows the village names that have been referred to in these

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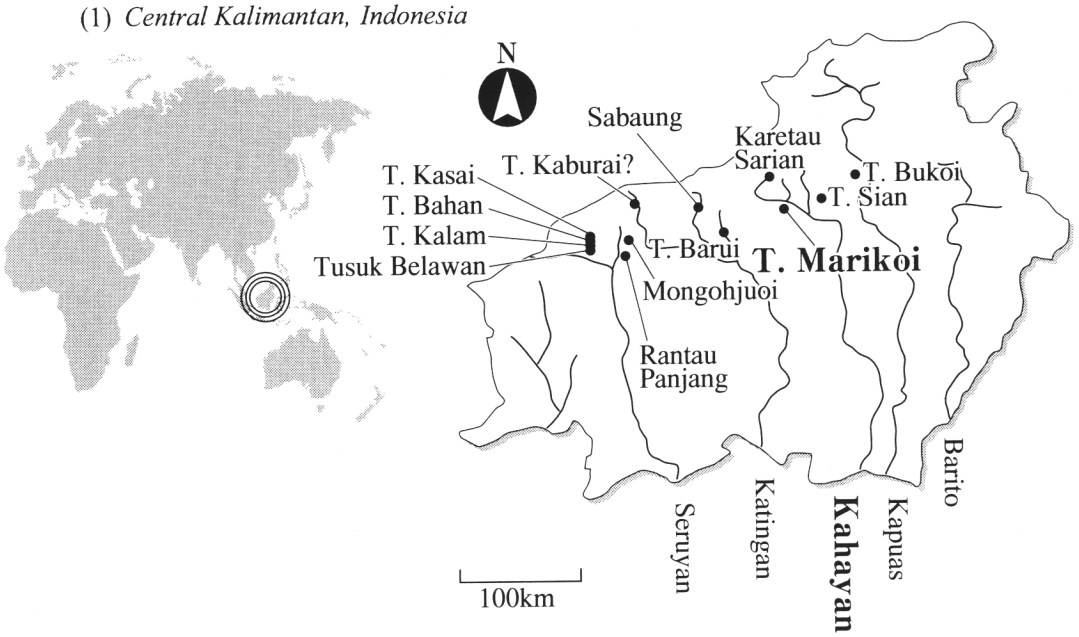
previous studies.

The genetic affiliation of Kadorih language is assumed to be that in (2).

(1) *Central Kalimantan, Indonesia*



(2) *A provisional mapping of Kadorih (and Ngaju) in Austronesian languages*

Austronesian
Malayo-Polynesian
Barito
West Barito
Northwest Barito
Kadorih (Dohoi)
(Southwest Barito
Ngaju)

Kadorih people speak Ngaju, a prestige language in the upriver regions of Central Kalimantan as their second language (for the genetic affiliation of Ngaju, see (2)). Furthermore, some Kadorih people speak Indonesian as another second language. Therefore, all members of the Kadorih community have acquired more than one language (all of which are Austronesian languages). On the contrary, almost no non-Kadorih people in the region speak Kadorih.

Native speakers of Kadorih use the Kadorih language for communication only among themselves. When Kadorih people speak with non-Kadorih people, they employ Ngaju or Indonesian for communicative purpose. In a religious context (Hindu- Kaharingan [traditional religion] or Christianity), Ngaju or Indonesian are predominant and Kadorih is not used in rituals.

Most loanwords are borrowed from Ngaju (*bahandang* 'red'; cf. Kad. *maŋan* 'red (red

pepper)' [archaic]). Recently, however, many words have come from Indonesian via TV.

The morphological/morphosyntactic descriptions in this paper are based on wordlists (about 2500 words), texts (about 1200 sentences) and elicited sentences (about 300 sentences) which were collected by the author in T[umbang] Marikoi (Kahayan: see map in (1)) during 2005–2006.

1.2 Phonetic and phonological sketches

According to Inagaki (2005b), the phonetics and phonology of Kadorih can be summarized as follows.

■ PHONETICS

There are three allophonic rules in Kadorih, *fronting rule* (/C/ → [C̟/C̠]: [t̟, d̟, n̟, r̟, ɾ̟, t͡ɕ̟, d͡ʑ̟, ɕ, n̠ / k̠, g̠, ŋ̠]), *prenasalization rule* (/D/ → [^{N}D]: [^{m}b, ^{n}d̪, ^{ɲ}d͡ʑ, ^{ŋ}g]), and *nonrelease rule* (/T/ → [T˺]: [p˺, t̪˺, k˺]). Word-final /s/ ([ɕ]) can be approximantized as [ɕ̞]. Each vowel quality is stable ([i, e, ɐ, o, u]), and each acoustic space is independently distributed in F_1–F_2 coordinate. Suprasegmental cues, such as loudness, pitch, etc., serve only as boundary markers of words, phrases, etc.

■ PHONOLOGY

The Kadorih phonemic inventory includes vocalic /i, e, a, o, u/ and consonantal /p, t, k; b, d, g; c, j; β, s, h; m, n, n̪, ŋ; r, ɾ; (y)/. The distribution of /y; β; d, n; e/ in words is restricted in terms of phoneme frequency. Phonetic diphthongs are predictable from their characteristics: (i) the second element must be a high vowel (i/u), (ii) they must occur in word-final position and (iii) they cannot compose a word by themselves. Inagaki (2005a) recognizes (C)V(C).(C)V(C/V) as the basic well-formed phonological word.

2 Preliminaries

In §2.1, the forms of the affixes and some affixation processes in Kadorih will be examined phonologically. In §2.2, affix sequences will be analyzed morpho-phonologically, after which Kadorih affixes (*N-, bV-, hV-, pV-, tV-, kV-, -Vn-*) will be classified in terms of their distribution within affixal slots. §2.3 describes information about transitivity phenomena, three clause types, and a note on volitionality.

2.1 Affixes

This paper will deal mainly with the Kadorih prefixes *N-, bV-, hV-, pV-, tV-, kV-* and the infix *-Vn-*. There are other affixes, for example, inflectional suffixes *-n* '(linker)', *-k* '1st person singular', *-m* '2nd person singular', *-i/-u* '3rd person singular', but these affixes will not be discussed.

Affix forms, base forms and example words derived by combining them are listed in (3). The symbol '∼' indicates that the forms on both sides are in free variation.

(3)

	affix	base	→	*word*	'word meaning'
a.	N-	konih	→	*ŋonih*	'to listen to'
b.	bV-	ruhpak	→	*baruhpak* ~ *boruhpak*	'to blister'
c.	hV-	sombaŋ	→	*hasombaŋ* ~ *hosombaŋ*	'to meet'
d.	pV-	kosak	→	*pakosak* ~ *pokosak*	'to ripen'
e.	tV-	tiruh	→	*tatiruh* ~ *totiruh*	'to fall asleep'
f.	kV-	duon	→	*kaduon* ~ *koduon*	'ability'
g.	-Vn-	soroŋ	→	*sanoroŋ* ~ *sonoroŋ*	'to be intruded'
h.	—	turak	→	*turak*	'to depart'

In (3a), the prefix 'N-' is attached to the base 'konih', yielding the word *ŋonih* 'to listen to'. Similarly, every affix is attached to the respective base in (3a–g).

Two types of bases should be distinguished in Kadorih with respect to whether or not the relevant base form can occur independently, i.e. there exist *free* bases and *bound* bases. For instance, 'turak' is a *free* base since 'turak' in (3h) can occur as the independent word *turak* 'to depart' (cf. *nurak* 'to push', {N-}+{turak}). On the other hand, 'konih' is a *bound* base since 'konih' in (3a) cannot occur independently.

The derived words in (3b–g) show that the affixes have morphophonemic variants with different vowel quality, *a* ~ *o* (represented by 'V'), and never *i/u/e*. Using binary features, the phonological specification of 'V' would be marked as [−high, −front, x low], where the value x of the feature [low] is a variable. [*1]

(4) The feature value x must be specified in $\mathrm{V}\begin{bmatrix}-\text{high}\\-\text{front}\\x\ \text{low}\end{bmatrix}$, $\begin{Bmatrix}\text{IF } x=+\text{, THEN V} \rightarrow a\\ \text{IF } x=-\text{, THEN V} \rightarrow o\end{Bmatrix}$

In (3a), the onset of the base /k/ changes to *ŋ* through the process of 'N'-affixation. What is involved in this process is the shift of feature values from [−sonorant, −voice, −nasal] to [+sonorant, +voice, +nasal]. The feature [+nasal] in Kadorih phonology entails [+sonorant, +voice]. Thus it is enough for 'N' to be specified as [+nasal]. Notice that 'V' in (4) is considered to have a skeletal slot ('X' in Goldsmith 1976) because it is a full-fledged segment, while 'N' in (3a) is not. In short, 'V' consists of skeletal slots and features, while 'N' consists only of the feature [+nasal]. [*2]

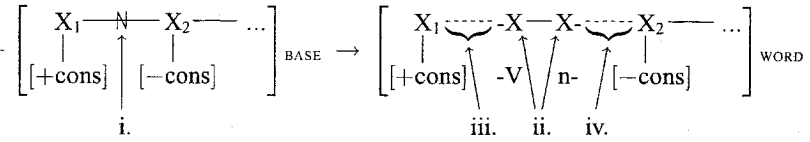
(5) N: [+nasal] (associated to the feature geometry of the leftmost C within a base)

In (3g), the base *soroŋ* can be divided into *s-* and *-oroŋ* since the affix '-Vn-' is placed between the first part and the second part (*s-Vn-oroŋ*), hence the process is one of infixation. Here '-Vn-' requires an 'anchoring point', that is, a point where it can break

[*1] If the 'V' in (3, 4) is assumed to be an epenthetic vowel employed for the sake of avoiding word-initial CC sequences, then the required lexical information for V-including affixes in (3) will only be consonantal ones (i.e. b-, h-, p-, t-, k-, -n-).

[*2] The autosegmental morpheme N- ([+nasal]-) is similar to the so-called tonal morphemes ("tone may be a morpheme in its own right" Yip, 2002, p. 105).

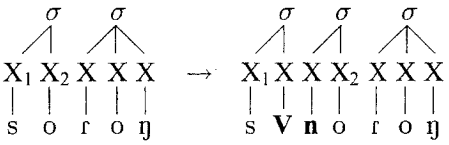
into a base. The segment which is most likely to yield an anchoring point is the one bearing the features *leftmost* [−cons] *within the base.*

(6) -Vn- + 

First, the association line between the skeletal slot X_1 which links to the leftmost [+cons] within a base and the X_2 which links to the leftmost [−cons] is delinked (=6i). Second, the infix '-Vn-' locates its skeletal slots ('X-X') at this delinked point (=6ii), after which '-V' associates with X_1 (=6iii), and 'n-' with X_2 (=6iv).

Along with the process (6), the prosodic structure changes, in other words, the segments are resyllabified as in (7).

(7) Resyllabification following infixing (e.g. *so.roŋ* → *s**V.no**.roŋ*)



2.2 Affix sequences

There are more complex affixes which consist of two syllables as in (8), different from the one-syllable affixes introduced in (3). Only complex prefixes are examined in the following examples.

(8)

affix	+	base	=	word	'word meaning'
a. bVtV-	+	sahpou	=	*batasahpou*	'to have a roof'
b. hVkV-	+	satuk	=	*hakasatuk*	'to collide e.o.'
c. pVkV-	+	kisuŋ	=	*pakakisuŋ*	'higher/highest'
d. tVpV-	+	kosak	=	*tapakosak*	'to be cooked unexpectedly'
e. tVkV-	+	tonih	=	*takatonih*	'more/most silent'

All bases in (8) are free base forms, as can be seen from (9a–e).

(9) a. *sahpou* 'roof' b. *satuk* 'hit' c. *kisuŋ* 'upper'
d. *kosak* 'fruitage' e. *tonih* 'to be silent'

The affixes in (8a–e) can also be used for derivation of other words as in (10a–e).

(10) a. bVtV- : *bata-konih* 'to fall on one's ear' *boto-komi* 'to smile'
b. hVkV- : *haka-poros* 'to harm e.o.' *hoko-haβon* 'to hug'
c. pVkV- : *paka-doni* 'nearer/nearest' *poko-baas* 'stronger/strongest'
d. tVpV- : *tapa-diaŋ* 'to be elevated' *topo-darou* 'to be overdone'
e. tVkV- : *taka-poros* 'more/most painful' *taka-mosak* 'more/most furuitful'

Complex prefixes show some phonological charasteristics of their own: (i) they include two syllables at the most, i.e. there are no CVCVCV(...)-type prefixes, (ii) they include only open syllables (CV), and (iii) the vowels must be identical in their quality, i.e. there is no *CaCo-* or *CoCa-*. [*3] These characterizations are true even if *N-* and *-Vn-* are taken into account. Thus, the general shape of complex affixes can be formalized as $(CV_i)\,CV_i$.

Possible combinations of first and second syllables ('σ_1'-'σ_2') for complex affixes are summarized as (11: '✓' = exists; '*' = unacceptable; '(✓)' = very few, but exists).

(11)

	'σ_2'				
'σ_1'	bV-	hV-	pV-	tV-	kV-
bV-	*			✓	(✓)
hV-		*		(✓)	✓
pV-			*		✓
tV-			✓	*	✓
kV-					*

(*boko-renaŋ* '(eyes) to be opened wide')
(*hata-rihkut* 'to be back to back')

It should be noted that *kVCV/CVbV/CVhV* syllable sequences in complex prefixes are not permitted. In other words, no *kV* syllables are possible for 'σ_1' position, and no *bV/hV* are possible for 'σ_2'. [*4]

It appears that the complex affixes in (8), (10) bear certain semantic similarities to the simple ones in (3). Both the *bV-* prefixed words and the *bVtV-/bVkV-* prefixed words refer to some kinds of static events, *hV-* and *hVkV-/hVtV-* to reciprocal ones, and *tV-* and *tVpV-* to non-volitional ones. These similarities suggest that the complex affixes *bVkV-*, *hVtV-* and *tVpV-* can be analyzed as consisting of two affixes, *bV-kV-*, *hV-tV-* and *tV-pV-*. Therefore, these complex affixes may not be just syllable sequences but *affix sequences*. This would justify the representation of 'σ_1' and 'σ_2' as affix slots (1st and 2nd one respectively).

Considering the respective distributions of syllables in (11) and the analysis of *bV-(CV-)* and *hV-(CV-)*, it can be assumed that Kadorih morphology imposes certain restrictions on the occurrence of *bV-/hV-/kV-*, which are described in (12).

(12) [1st slot] - [2nd slot] - [base]

a. *bV* and *hV*: cannot occur at the 2nd slot position
b. *kV* : cannot occur at the 1st slot position

[*3] Complex affixes also have morphophonemic variants CaCa- ~ CoCo- as examples showed in (3b–g). For instance, *boto-konih* 'to fall on one's ear' is attested as well as *bata-konih* in (10a).

[*4] *kaha-nduo* 'the second time', *kaha-toru* 'the third time' (*duo* 'two', *toru* 'three') have been attested and seem to act as two counterexamples. However, the syllable sequences *kVCV* and *CVhV* have not been attested in any other examples.

The notion of 'slot' in (12) is defined in phonological terms as a syllable. Two affixes can occur simultaneously in the same slot (syllable), for example, the verb *ŋa-ruhca* 'to spit on' has two affixes (*N-* + *kV-*) in one slot (base: *ruhca* 'saliva').

Thus, *bV-* and *hV-* can be called *1st slot prefix* and *kV- 2nd slot prefix*. Morphologically, the *1st slot prefixes* (*bV-/hV-*) and the infix (*-Vn-*) cannot have a base as their output.

It is generally accepted that derivational affixes are in positions closer to bases than inflectional affixes. In that respect, *kV-* is derivational. In addition, it mainly has bases as output (see § 3.3).

2.3 Transitivity of verbs and three types of clauses

In this section, the anaphoric marker *ah* [*5] and three types of clauses will be introduced. This paper presupposes the primitive relations S (intransitive subject), A (transitive subject), and O (transitive object) as discussed in Dixon (1994).

The syntactic transitivity and the core argument of verbs can be confirmed by using *ah*.

(13) a. *ihto mahku taβaŋ tuh =rih*
1+2 to nail to boat baseplate this ANPH
'You and I nail to that boat baseplate'
b. *taβaŋ tuh=rih, ihto mahku=**ah***
'That boat baseplate, you and I nail to it'

In (13a), *ihto* 'you and I' functions as A, *mahku* 'to nail to' is the transitive verb, and *taβaŋ tuh=rih* 'that boat baseplate' functions as O, i.e. the clause is an [AVO] construction. If the O argument is placed in the initial position of the clause (=13b: [O, AV] construction), V must be immediately followed by *ah* which refers to the O argument (*taβaŋ tuh=rih*).

(14) a. *Saŋumaŋ mondui anan* 'Sangumang took a bath there'
PSN to take a bath there
b. **anan, Saŋumaŋ mondui=**ah*** (OK. *anan, Saŋumaŋ mondui*)

In (14a), *Saŋumaŋ* functions as S, *mondui* 'to take a bath' is the intransitive verb and *anan* 'there' is an adverb, i.e. the clause is an [SV ADV] construction. If the adverb is placed in the initial position of the clause (=14b: ADV, SV), V cannot be followed by *ah*.

(15) a. *Racahaci mohcon aaŋ rohpou atuh* 'Racahaci lives in that house'
PSN to live PREP house that
b. *aaŋ rohpou atuh, Racahaci mohcon=**ah*** 'In that house, Racahaci lives'

[*5] *ah* also functions as a possessive marker.
a. *tahtu=ah* 'his/her grandfather' b. *buβu=ah* 'his/her fish trap'
c. *husuk=ah* 'its surface' d. *uhpah=ah* 'its reward'
ah is a kind of an inflectional enclitic whose hosts are words or phrases.
e. *ihto* [*mahku ŋegah*] *=ah* 'You and I nail to it and strengthen it'
1+2 to nail to to strengthen AH

In (15a), *mohcon* 'to live' is a semi-transitive verb, *Racahaci* is the subject and *(aaŋ) rohpou atuh* '(in) that house' is a prepositionally marked (i.e. oblique) core argument. The base of this semi-transitive verb can be used in passive form when the oblique core argument undergoes relativization (see § 3.2). When the oblique core argument is placed in the initial position of the clause (=14b), V can be immediately followed by *ah* which refers to the location expressed by *rohpou atuh*.

If the undergoer or the location is implied in the preceding context, the (semi-) transitive verb (e.g. *mahku, mohcon*) can be followed by *ah*, in which case the relevant argument is elided in the clause (*ihto mahku=ah* 'You and I nail to it', *Racahaci mohcon=ah* 'Racahaci lives there'). On the other hand, intransitive verbs like *mondui* can never be followed by *ah* (**Saŋumaŋ mondui=ah*).

In addition to transitivity, verb properties can also be analyzed in terms of volition. Generally, a verb with an agentive subject is a volitional verb, and, inversely, a verb which cannot take an agentive subject is a non-volitional verb. Volitional verbs can be used in the imperative mood. However, if non-volitional verbs are used in the imperative mood, that usage would be unnatural or, alternatively, would be construed to express the peripheral optative mood. This paper assumes that when a verb can be used in the imperative mood, the verb in question is a volitional one.

The constructions introduced in (13b) and (15b) should be distinguished from undergoer-first constructions like (16b).

(16) a. *piɲjan , Aβo muhi =ah* [O, AV]
dish PSN to wash AH
'The dishes, Awo washed them'

b. *piɲjan panuhi Aβo kai* [SV OBL]
dish to be washed PSN POST
'The dishes were washed by Awo'

piɲjan 'dish' in (16a) is moved to the clause-initial position as the O argument, but in (16b) *piɲjan* is the S argument. Additionally, a pause can be placed after the O argument, but there is no such pause in the case of (16b).

In this paper, three types of clauses are defined depending on the semantic properties of the clause-initial constituents as follows.

(17) a. ActoR-Initial (ARI): a clause is ARI iff
the clause-initial constituent refers to the ACTOR of the event

b. ActioN-Initial (ANI): a clause is ANI iff
the clause-initial constituent refers to the ACTION of the event

c. UndergoeR-Initial (URI): a clause is URI iff
the clause-initial constituent refers to the UNDERGOER of the event

Examples of ARI clauses are given in (13a), (14a) and (15a). A URI clause is shown in (16b).

The clause illustrated by (18) is an ANI clause.

(18) *panuhi* *Aβo* *kai* [*6] *piɲjan* [V OBL S]
to be washed PSN POST dish
'Washed by Awo, the dishes were'

3 Descriptions

In this section, each affixed form will be described according to the types introduced in § 2.2, i.e. *1st slot prefix / infix / 2nd slot prefix / plain prefix*. Each of the affixes is analyzed in terms of transitivity, volition, possible clause type, etc.

3.1 1st slot prefix

*b*V-forms (§ 3.1.1) and *h*V-forms (§ 3.1.2) are the forms with *1st slot prefixes*.

3.1.1 *b*V-forms

*b*V-forms are used as non-volitional intransitive verbs. [*7] Anticausative constructions can be made from the *b*V-forms. In such constructions, *b*V-forms can be used as predicates in URI clauses with the constituent order [SV].

■ **NON-VOLITIONAL INTRANSITIVE *bV*-forms**

All the bases in (19c) are *free bases*, while those in (19a, 19b) can only be *bound bases*.

(19) a. *ba-porok* 'to be broken' (*porok* 'broken')
ba-posak 'to be cracked' (*posak* 'crack')
ba-tutus 'to be pierced' (*nutus* 'to pierce')
b. *ba-dohon* 'to be strong' (*dohon* 'strong')
ba-rasut 'to be hot' (*rasut* 'hotness')
ba-romu 'to be weak' (*ko-romu* 'tolerance')

[*6] Kadorih mainly uses prepositions, but the postposition *kai* may be used for the purpose of marking the actor in ANI/URI clauses.

Taba (Austronesian: VO language) mainly uses prepositions, but the postposition *li* 'LOCATIVE' exists. This postposition is regarded as a byproduct of a genitive noun phrase (GEN-lalo 'in the X') (Bowden, 2001, p. 145). Dom (Papuan: OV language) mainly uses postpositions, but the prepositional particle *ɾere* 'DIRECTION' exists. This particle is considered to be the first part of a fossilized idiomatic serial verb construction (where the second part is 'go' or 'come') (Tida, 2006, pp. 66–68).

In addition to these 'special' adpositions, *kai* might be a secondary diachronic product of a certain construction. However, this is an unresolved problem and needs further research.

[*7] Following Dixon (1999), the terms 'unaccusative' and 'unergative' are not used in the present paper.

> [T]he labels 'unaccusative' and 'unergative' are used for quite different things in languages of opposite types — type A, with non-strict transitivity and consistent S marking, and type B, with strict transitivity and split-S-marking. (Dixon, 1999, p. 326)

c.	*ba-ahtoi*	'to have heart'	(*ahtoi*	'heart')
	ba-baras	'to be sandy'	(*baras*	'sand')
	ba-doroi	'to get scalded'	(*doroi*	'blister')
	ba-duhi	'to be prickly'	(*duhi*	'thorn')
	ba-henda	'to be yellow'	(*henda*	'turmeric')
	ba-horaŋ	'to be divided'	(*horaŋ*	'boundary')
	ba-kirap	'to be lightning'	(*kirap*	'lightning')
	ba-ruhpak	'to get blistered'	(*ruhpak*	'blister')
	ba-pahkat	'with friends'	(*pahkat*	'friend')
	ba-sahpou	'to be roofed'	(*sahpou*	'roof')

Sentences with non-volitional intransitive verbs are given in (20).

(20) a. *tohkon=ku* ***ba****porok* 'My bamboo stick is broken'
bamboo stick=1SG to be broken

b. *kambaŋ-kambaŋ orih* ***ba****romu* 'The flowers are weak'
flower-flower DEM to be weak

c. *rohpou=ku* ***ba****sahpou* *=ndai* 'My house has already been roofed'
house=1SG to be roofed already

■ **ANTICAUSATIVE *bV*-forms**

bV-forms can also have the meaning of anticausative verbs. Both *mosak* 'to crack (tr.)' in (21a) and *baposak* 'to crack (intr.)' in (21b) are derived from the same base 'posak'. While the former is an *N*-form (*N-posak*), the latter is a *bV*-form (*bV-posak*). The undergoer argument *arut Yahudi* 'Yahudi's boat' functions as O in (21a), and the corresponding argument functions as S in the anticausative construction (21b).

(21) a. *Kasuya mosak arut Yahudi* [AVO]
PSN to crack boat PSN
'Kazuya cracked Yahudi's boat'

b. *arut Yahudi* ***ba****posak* [SV]$_{ANTC}$
boat PSN to crack
'Yahudi's boat cracked'

bV-forms in (19a) are anticausative verbs whose bases are used to derive transitive *N*-forms (*morok* 'to break s.t.', *nutus* 'to pierce s.t.'). Anticausative *bV*-forms probably share their bases with transitive *N*-forms.

3.1.2 *hV*-forms

hV-forms are used mainly as volitional intransitive verbs which refer to reciprocal (or cooperative) actions. They can be used as predicates of ARI clauses with the constituent order [S V (OBL)]. In addition, *hV*-forms may also be used as non-volitional intransitive verbs.

■ **RECIPROCAL *hV*-forms**

Some bases in (22a) are *bound bases*, while all bases in (22b) are *free bases*.

(22) *Volitional intransitive **hV-forms** (reciprocal/cooperative)*

a.	*ha-konih*	'to listen to e.o.'	(*ŋonih*	'to listen to')
	ho-kosono	'to get acquainted with'	(*kosono*	'acquainted')
	ha-posak	'to crack s.t. e.o.'	(*posak*	'crack')
	ha-punu	'to kill e.o.'	(*munu*	'to kill')
	ha-sombaŋ	'to meet'	(*sombaŋ*	'meet')
	ha-suduk	'to fight with knife'	(*ɲuduk*	'to slash/cut')
	ha-tapar	'to fight by slapping'	(*napar*	'to slap')
	ha-tuhui	'to quarrel'	(*tuhui*	'words')
	ha-turak	'to push e.o.'	(*turak*	'to depart')
b.	*ha-barai*	'to stay (together)'	(*barai*	'meeting place')
	ha-pahkat	'to go together'	(*pahkat*	'friend')
	ho-pupuŋ	'to gather'	(*pupuŋ*	'peak, meeting')
	ha-tikos	'to ask a riddle'	(*tikos*	'riddle')

A reciprocal or cooperative participant argument is obligatorily marked by one of the prepositions *doro* and *umba*, i.e. the participants of the event can be marked in different ways. *doro* is used to make a pair of arguments as NP (23a: [$_{NP}$ N ***doro*** **N**]). *umba* is used to mark an argument as in (23b: oblique PP [$_{PP}$ ***umba*** **N**]). Reciprocal *hV*-forms are used as predicates of ARI clauses with the constituent order [S V (OBL)].

(23) a. [*Ikiŋ doro Iβan*] ***ha***poros [[S]V]$_{RECP}$
PSN PREP PSN to harm e.o.
'Iking, with Iwan, harmed each other'

b. [*ahku*] ***ho***kosono [*umba paŋeran koik*] [[S] V [OBL]]$_{RECP}$
1SG to get acquainted PREP prince small
'I met a little prince'

In the following example, *arut* 'boat' in (24a) and *roŋo* 'arm' in (24b) seem to be the O arguments of the respective clauses.

(24) a. *Kusmaβan doro Tarisman **ha**posak arut*
PSN PREP PSN to crack s.t. e.o. boat
'Kusmawan, with Tarisman, cracked the opponent's boat e.o.'

b. *Herman **ha**turak roŋo umba Kasuya*
PSN to push s.t. e.o. arm PREP PSN
'Herman pushed e.o.'s arm with Kazuya'

However, *arut* and *roŋo* show different properties from those of regular O arguments. Consider the following elicited ungrammatical examples.

(25) a. ****arut,*** *Kusmaβan doro Tarisman haposak =ah*

b. *Kusmaβan doro Tarisman haposak arut.* * ***arut =rih*** ...
c. * *Herman haturak* ***roŋo=ah*** *umba Kasuya*
d. * *Herman haturak* ***roŋo tuh*** *umba Kasuya*

(25a) shows that O-like nouns after an *hV*-form (here, *arut*) cannot move to clause-initial position. This fact contradicts the mobility of O arguments in other clauses (cf. 13b).

In (25b), there are two sentences, namely [*Kusmaβan ... arut.*] and the succeeding [*arut*=rih ...]. *arut=rih* 'that boat' in the second sentence is ungrammatical because its intended usage is as a reference to 'the boat' in the reciprocal event. Nevertheless, this kind of reference is possible for O arguments in other clauses (for example, 13a: *ihto mahku taβaŋ tuh=rih.* ***taβaŋ=rih*** ...).

(25c) and (25d) show that O-like nouns after an *hV*-form (here, *roŋo*) cannot be modified by either the possessive marker *ah* (see f.n. ∗5) or the demonstrative *tuh*. O arguments in other clauses can be freely modified by *ah* (cf. 40b) or *tuh* (cf. 13a), if necessary.

This paper assumes that an O-like element is incorporated into the co-occurring *hV*-form, and that they together constitute one verb. [*8] This assumption means that all *hV*-forms are used as intransitive verbs and therefore *ha-posak* and *ha-turak* in (24a, 24b) are intransitive verbs as *ha-poros* and *ho-kosono* in (23a, 23b).

■ **NON-VOLITIONAL INTRANSITIVE *hV*-forms**

Like *bV*-forms, *hV*-forms can be used as non-volitional intransitive verbs. Notice that *hV*-forms can never be interpreted as anticausative verbs (cf. *bV*-form: 21b).

(26) *Non-volitional intransitive* ***hV-forms***: *ha-baras* 'to be sandy' (*baras* 'sand')
ha-duhi 'to be prickly' (*duhi* 'thorn')

(27) *Non-volitional intransitive* ***bV-forms***: *ba-baras* 'to be sandy' (*baras* 'sand')
ba-duhi 'to be prickly' (*duhi* 'thorn')

Some speakers view *habaras, haduhi* in (26) as native words, and *babaras, baduhi* in (27) as analogical (or calque) forms of words in Ngaju (*bapasir* 'to be sandy').

3.2 Infix *-Vn*-forms

-Vn-forms are used as non-volitional intransitive verbs, and more specifically as passive verbs. They can be used as predicates of URI clauses with the constituent order [S V OBL] or of an ANI clause with the constituent order [V OBL S].

[*8] There is an idiomatic expression, *haturak rihkut* 'to start e.o.'s journey from one departure point simultaneously for different destinations', whose meaning cannot be derived from its constituents (*haturak* 'to push e.o.' and *rihkut* 'back').

■ **PASSIVE -*Vn*-forms**

All the bases in (28a) are *free bases* while some bases in (28c) are *bound bases*. [*9] Some complex -*Vn*-forms as seen in (28d) have been found. [*10]

(28) a. *p-an-ahkat* '(s.o.) to be taken' (*pahkat* 'friend')
s-an-ahpou '(s.t.) to be roofed' (*sahpou* 'roof')
b. *p-an-ohcon* 'to be inhabited' (*pohcon* 'something left behind')
c. *k-an-itot* 'to be delivered' (*ŋitot* 'to deliver')
p-an-uhi 'to be washed' (*puhi* 'used (water)')
s-an-oroŋ 'to be intruded' (*ŋoroŋ* 'to intrude into')
d. *k-on-oruhca* 'to be spat on' (*ko-ruhca* 'spitting')
p-an-akosak 'to be cooked/ripen' (*pa-kosak* 'to cook/ripen')

Both *muhi* 'to wash' in (29a) and *panuhi* 'to be washed' in (29b, 29c) are derived from the same base *puhi*. [*11] While the former is a *N*-form (*N-puhi*), the latter is a -*Vn*-form (*p-Vn-uhi*). The undergoer argument *piŋjan* functions as O in (29a), and the corresponding argument functions as S in the passive construction (29b). In addition, the actor argument *Aβo* functions as A in (29a), while the corresponding argument functions as OBL that is expressed by a postpositional phrase in (29b).

(29) a. *Aβo muhi piŋjan* [AVO]
PSN to wash dish
'Awo washed the dishes'
b. *piŋjan panuhi Aβo kai* [S V OBL]$_{PASS}$
'The dishes were washed by Awo'
c. *panuhi Aβo kai piŋjan* [[V OBL S]$_{PASS}$]$_{ANI}$
'Washed by Awo, were the dishes'

(29b) shows a URI clause with the constituent order [S V OBL], while (29c) shows an ANI clause with the constituent order [V OBL S].

Postpositionally marked actor arguments (e.g. 29b: *Aβo kai*) cannot be used in anticausative constructions due to the fact that anticausative constructions, by definition, cannot imply the existence of an actor.

Possible constituent orders within passive constructions are [S V OBL] and [V OBL S]. Any other options are unacceptable, as is seen from the following elicited ungrammatical examples.

[*9] *soroŋ* '(person) possessed *by an evil spirit*' is a possible base of *sanoroŋ* in (28c). The free base *soroŋ* is used as a word with this specific meaning.

[*10] In (28), -Vn-foms with a /t/-initial base are not given since the formal contrast between -*Vn*- and *tV-N*-forms is lost when they are attached to /t/-initial bases (see § 3.4.3: ***tV-N*-forms**).

[*11] *puhi* '*used* (water) for washing *hands*' is a possible base of *panuhi* in (28c, 29b) and of *muhi* in (29a). The free base *puhi* is used as a word with this specific meaning.

(30) a. *[*Aβo kai*] [*piŋjan*] [*panuhi*] (*[OBL S V])
b. *[*Aβo kai*] [*panuhi*] [*piŋjan*] (*[OBL V S])
c. *[*piŋjan*] [*Aβo kai*] [*panuhi*] (*[S OBL V])
d. *[*panuhi*] [*piŋjan*] [*Aβo kai*] (*[V S OBL])

It is clear from these observations that only the order [V–OBL] is permitted. The examples (30a), (30b) and (30c) reveal that the order [OBL–V] is unacceptable, and (30d) shows that [V–OBL] cannot be separated by the S argument. Thus, actor arguments in *-Vn*-form clauses are restricted to postverbal positions. This description holds true not only for passive constructions, but also for non-ARI clauses of other prefixed forms, namely ANI clauses of *pV*-forms (§ 3.4.2: 42b) and of *tV*-forms (§ 3.4.3: 49b, 51c), and URI clause of *tV*-forms (§ 3.4.3: 51b).

As shown in (28b), *pohcon*, the base of the semi-transitive verb *mohcon* 'to live', can be passivized as *panohcon* 'to be inhabited'. In (31a), there is an oblique core argument *aaŋ pranet* 'on the planet' with *mohcon*. This oblique argument is relativized in (31b).

(31) a. *karunon mohcon aaŋ pranet* [NP_{AR} V OBL]
human to live PREP planet
'Human beings live on the planet'
b. *pranet ijo panohcon karunon* [NP REL V NP_{AR}]
planet REL to be inhabited human
'The planet which is inhabited by human beings'

3.3 2nd slot prefix *kV*-forms

kV-forms are the forms with *2nd slot prefixes*. They form abstract nouns or function as bases for further affixation. Most *kV*-forms are non-predicative.

(32) lists examples of abstract nouns. The bases of these nouns are all *free bases*. *kV*-forms in (32a) and (32b) are derived by attaching *kV-* and *k-* respectively. *12

(32) a. *ka-bahat* 'weight' (*bahat* 'heavy')
ka-biou 'youth' (*biou* 'young')
ka-koik 'smallness' (*koik* 'small')
ka-hajo 'size' (*hajo* 'big')
ka-kahpan 'slenderness' (*kahpan* 'thick')
ka-satah 'tilt' (*satah* 'tilted')
ka-tahi 'length (time)' (*tahi* 'long (time)')
b. *k-aro* 'abundance' (*aro* 'many/much')
k-isuŋ 'height' (*isuŋ* 'high')
k-ombu 'length (space)' (*ombu* 'long (space)')

*12 The examples (32b) motivate the systematic analysis in which V is regarded as an inserted vowel as mentioned in f.n. *1.

kV-forms and *k*-forms in (33) function as bases to which the prefix *N*- is attached. (33a) and (33b) show *kV*-forms and *k*-forms respectively.

(33) a. i. [N]-ka-pios → *ŋapios* 'to improve' (*pios* 'good')
[N]-ka-rasut → *ŋarasut* 'to warm up' (*rasut* 'hotness')
ii. [N]-ko-roβoŋ → *ŋoroβoŋ* 'to bury' (*roβoŋ* 'grave')
[N]-ka-ruhca → *ŋaruhca* 'to spit on' (*ruhca* 'saliva')

b. [N]-k-anak → *ŋanak* 'to have a child' (*anak* 'child')
[N]-k-ihaŋ → *ŋihaŋ* 'to dry in the sun' (*ihaŋ* 'sun-dried thing')
[N]-k-ohcin → *ŋohcin* 'to fish' (*ohcin* 'fish')
[N]-k-oruh → *ŋoruh* 'to take a wife' (*oruh* 'wife')
[N]-k-uhpak → *ŋuhpak* 'to peel' (*uhpak* 'skin')
[N]-k-umo → *ŋumo* 'to farm' (*umo* 'rice field')

In (34), there are *kV*-forms derived from free bases with voiced stop onsets. When these *kV*-forms function as bases for the derivation of *N*-forms, their onsets can be replaced or preceded by nasal consonants.

(34) [N]-ka-beseu → *ŋameseu* ~ *ŋambeseu* 'to paddle'
(*beseu* 'oar')
[N]-ka-buβu → *ŋamuβu* ~ *ŋambuβu* 'to use a fish trap'
(*buβu* 'fish trap')
[N]-ka-duhi → *ŋanduhi* 'to smooth away thorns'
(*duhi* 'thorn')
[N]-ka-bohkon → *ŋomohkon* 'to differentiate'
(*bohkon* 'different')

Notice that, for example, *kabahat* and *kabiou* in (32a) also have voiced stop onsets within their bases, but they cannot become **kamahat*/**kambahat* or **kamiou*/**kambiou*. This fact suggests that the alternations in question are triggered by *N*-affixation as in (34), that is, the voiced stop onsets of the bases can be replaced or preceded nasal consonants only when the prefix *N*- is attached to the relevant derived *kV*-forms. Thus, *N*- is considered to be a kind of floating feature morpheme '[+nasal]-' which can affect non-adjacent segments beyond the syllable *kV*.

3.4 Plain prefix

N-forms (§ 3.4.1), *pV*-forms (§ 3.4.2) and *tV*-forms (§ 3.4.3) are the forms with *plain prefixes*.

3.4.1 *N*-forms

N-forms can be intransitive or transitive verbs. They can be used as predicates of ARI clauses with the constituent order [SV] or [AVO].

■ **INTRANSITIVE *N*-forms**

N-forms can be volitional or non-volitional intransitive verbs. The examples in (35a) are volitional verbs, while those in (35b) are non-volitional ones.

(35) a. ***m**ondui* 'to take a bath' (*pondui* 'bathing')
***n**aaŋ* 'to fly' (*taaŋ* 'fly(ing)')
***ŋ**aran* 'to walk' (*jalan* 'road')
b. ***m**ahtoi* 'to die' (*pahtoi* 'death')
***n**ondu* 'to crow (cock)' (*tondu* 'crowing voice')
***ŋ**otut* 'to fart' (*kotut* 'fart')

Example sentences including some of the above (non-)volitional intransitive verbs are given in (36).

(36) a. *Saŋumaŋ **m**ondui anan*
PSN to take a bath there
'Sangumang took a bath there'
b. *io **m**ahtoi aaŋ rohpou amai Busun*
3SG to die PREP house father PSN
'He died in the house of Amai Busun'

■ **TRANSITIVE *N*-forms**

N-forms can be volitional transitive verbs. These transitive *N*-forms can be divided into two groups based on the semantic role of the O argument. In (37a), the O argument in each relevant event refers to its goal point, while (37b), the O arguments refer to the patient objects.

(37) a. forms requiring goal O arguments:
***m**ahku* 'to nail to' (*pahku* 'nail')
***m**asap* 'to visit' (*pasap* 'visit')
***m**utah* 'to answer s.o.' (*putah* 'answer')
***ŋ**isok* 'to question s.o.' (*kisok* 'questioning')
b. forms requiring patient O arguments:
***m**unu* 'to kill' (*hapunu* 'to kill e.o.')
***n**orok* 'to chop' (*torok* 'chopping')
***n**otok* 'to cut off' (*totok* 'cut')
***n**oβoŋ* 'to cut down' (*toβoŋ* 'cutting down')

Example sentences with these transitive verbs are given in (38). In (38a), the 'questioning' event *ŋisok* 'to question s.o.' is addressed to the goal *arop=mu* 'yourself'. On the other hand, the addressee *ihko* 'you' is marked by the preposition *umba* in (38b), and therefore *ŋisok* in this example is a semi-transitive verb without an O argument. In (38c), the 'chopping' event *norok* 'to chop' affects the patient *sondak barai atuh* 'that big squash'.

(38) a. *ihko* ***ŋ***isok arop =*mu*
2SG to question s.o. self =2SG
'You may question yourself'
b. *iroh eam puji* ***ŋ***isok ***umba*** *ihko*
3PL NEG AUX to question s.o. PREP 2SG
'They will never question you'
c. *ihko* ***n***orok *sondak barai atuh*
2SG to chop squash big one that
'You chop that big squash'

3.4.2 *pV*-forms

pV-forms can be causative verbs or nouns. Causative *pV*-forms are used as volitional transitive verbs. They can be used as predicates of ARI clauses with the constituent order [AVO (OBL)] or of ANI clauses with [V OBL NP] order. Nominal *pV*-forms denote abstract concepts or 'habitual-activity-doers'.

■ **CAUSATIVE *pV*-forms**

(39a) and (39b) show transitive *pV*-forms and ditransitive *pV*-forms respectively.

(39) a. *pa-kosak* 'to cook/ripen' (*kosa-kosak* 'bearing full fruit')
po-taaŋ 'to cause s.t. to fly' (*taaŋ* 'fly(ing)')
pa-tonih 'to silence' (*tonih* 'to be silent')
b. *pa-kinjam* 'to lend' (*ŋinjam* 'to borrow')
pa-konih 'to cause s.o. to listen to' (*ŋonih* 'to listen to')
pa-tohto 'to show' (*tohto* '(nice) looking')

tonih in (40a) is a free base and *patonih* in (40b) is a derived *pV*-form of that base. The S argument *anak=ah* 'his/her child' in (40a) functions as O in (40b). A new causer argument *Junaidii* which functions as A is added in (40b).

(40) a. *anak* =*ah* *tonih* [SV]
child AH to be silent
'His/her child was quiet'
b. *Junaidii* ***pa****tonih anak* =*ah* [AVO]$_{CAUS}$
'Junaidii made his child be quiet'

Both *ŋonih* 'to listen to' in (41a) and *pakonih* 'to cause s.o. to listen to' in (41b) are derived from the same bound base *konih*. The former is an *N*-form (*N-konih*), the latter is a *pV*-form (*pV-konih*). The A argument *Tarisman* and the O argument *karimoi Uhko* in (41a) function as O and OBL respectively in (41b). A new causer argument *Yahudi* which functions as A is added in (41b).

(41) a. *Tarisman ŋonih karimoi Uhko*
PSN to listen to story PSN
'Tarisman listened to the Uhko Story'
b. *Yahudi **pa**konih Tarisman umba karimoi Uhko*
'Yahudi made Tarisman listen to the Uhko Story'

[AVO]
[AVO OBL]$_{CAUS}$

It should be noted that grammatical relations in a clause with a *pV*-form predicate depend on which clause type (ARI/ANI) is present. (42a) shows that the actor argument *ahku* 'I' functions as A in ARI clauses, while in ANI clauses (=42b) the corresponding argument, though the form is reduced to *ku*, functions as OBL (*ku kai*). The undergoer argument *puti* 'banana' functions as O in ARI clauses (=42a), but the function of the corresponding argument in (42b) is different. The grammatical role of *puti* in (42b) cannot be determined in this case (it is represented as NP_{UR}). There are no hints as to whether *puti* functions as the subject or the object in (42b).

(42) a. *ahku pakosak puti*
1SG to ripen banana
'I ripened the banana'
b. *pakosak ku kai puti*
to ripen 1SG POST banana
'I ripened, the banana'

[[AVO]$_{CAUS}$]$_{ARI}$
[V OBL NP$_{UR}$]$_{CAUS}$]$_{ANI}$

In clauses with ditransitive *pV*-forms, at least one of the two non-causer arguments must be marked by a preposition. In the following examples featuring a 'showing' event, the causee argument *Botan* is obligatorily marked by *ahkan* (43a), while this marking is optional in (43b). The theme argument *saraβar=ah* 'his/her trousers' is unmarked in (43a), however, it must be marked by *umba* in (43b).

(43) a. *Iβan patohto saraβar =ah **ahkan** Botan*
PSN to show trousers AH PREP PSN
'Iwan showed his trousers to Botan'
b. *Iβan patohto **(ahkan)** Botan **umba** saraβar =ah*
'Iwan showed Botan his (Iwan's) trousers'

In clauses with ditransitive *pV*-forms, only theme arguments are referred to by *ah*, as in the case of *saraβar tuh* 'this trousers' in (44a). Goal arguments can be referred to only by pronouns such as *io* 'him/her/it' as in (44c).

(44) a. ***saraβar tuh**, Iβan patohto =**ah** ahkan Botan*
'This trousers, Iwan showed it to Botan'
b. ***Botan orih**, Iβan patohto =**ah** umba saraβar =ah*
(*Botan, Iwan showed him his trousers; *orih* 'REF')
c. ***Botan orih**, Iβan patohto **io** umba saraβar =ah*
'Botan, Iwan showed him his trousers' (***io*** '3SG')

In (44a), *saraβar tuh* behaves as a regular O argument in a clause initial position, which is referred to by *ah*, [*13] but in (44b) the goal argument *Botan orih* does not. Like *saraβar=ah* in (43a), a postverbal undergoer argument is unmarked if its semantic role is theme, while such an argument can be marked by prepositions if its semantic role is to represent a goal (e.g. 43b: *ahkan Botan*). The prepositionally marked goal argument can also be seen in (§3.4.1: 38b; *ŋisok umba ihko* 'to question you').

■ NOMINAL *pV*-forms

Most nominal *pV*-forms contain *N*-forms as in (45a) with a few exceptions as seen in (45b).

(45) a. 1. abstract concepts

pa-mahku	'nailing'	(*mahku* 'to nail to')
pa-ŋomo	'sense'	(*ŋomo* 'to feel')
pa-ŋuman	'meal'	(*kuman* 'to eat s.t.')

2. 'habitual-activity-doer'

pa-mander	'chatty person'	(*mander*	'to say s.t.')
pa-mihkoh	'coward'	(*mihkoh*	'to be afraid')
pa-moros	'ill person'	(*moros*	'to suffer from')
pa-nonih	'person of few words'	(*nonih*	'to take into heart')
pa-ŋaruhca	'spitter'	(*ŋaruhca*	'to spit on')
pa-ŋamuβu	'fish trap user'	(*ŋamuβu*	'to use fish trap')
pa-ŋumo	'farmer'	(*ŋumo*	'to farm')

b. *pa-homboh* 'passenger' (*homboh* 'together')
pa-rombut 'arrival' (*rombut* 'to come')

3.4.3 *tV*-forms

tV-forms are used as non-volitional verbs. *tV-N*-forms have a passive meaning, while *tV*-forms without an *N*-form have a spontaneous meaning. [*14]

■ SPONTANEOUS *tV*-forms

Spontaneous *tV*-forms are used as non-volitional intransitive/transitive verbs. They can be used as predicates of ARI clauses with the constituent order [SV] or [AVO], and as predicates of ANI clauses with [V OBL NP_{UR}] order. (46) lists examples of intransitive verbs, and example sentences including some of them are given in (47).

[*13] A regular O argument in Kadorih is a non-oblique core argument, that is, it is not marked by adpositions. It functions as S when its predicate is passivized, and is referred to by *ah* when it is in a clause initial position.

[*14] (Shibatani, 1985, p. 827) defines 'spontaneous occurrence' as 'an event that automatically occurs, or a state that spontaneously obtains without the intervention of an agent'.

(46)

ta-baras	'to get sand'	(*baras* 'sand')
ta-diaŋ	'to rise'	(*diaŋ* 'above')
ta-kariŋ	'to be sprawled on one's back'	(*kariŋ* 'to lie down')
ta-poros	'(body) to hurt'	(*poros* 'ill/ache')
ta-tiruh	'to fall asleep'	(*tiruh* 'to sleep')

(47) *io* *turus* ***ta****kariŋ* *turus* ***ta****tiruh*
3SG then to be sprawled then to fall asleep
'He was then sprawled, then fell asleep'

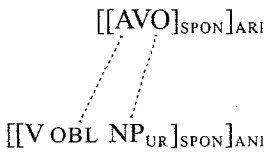
Examples of transitive *tV*-forms are given in (48).

(48)

ta-konih	'to hear'	(*ŋonih* 'to listen to')
ta-ruhca	'to spit on uncauciously'	(*ruhca* 'saliva')
ta-tonih	'to be silent for'	(*tonih* 'to be silent')

The actor argument (here a 'perceiver') *Kusmaβan* functions as A in (49a), and the corresponding argument functions as OBL in (49b). The undergoer (here a 'stimulus') argument *auh orih* 'the voice' functions as O in (49a), and corresponds to the final NP_{UR} in (49b).

(49) a. *Kusmaβan takonih auh orih*
PSN to hear voice REF
'Kusmawan heard the voice'
b. *takonih Kusmaβan kai auh orih*
'Kusmawan heard, the voice'



The grammatical relations in *tV*-form clauses depend on the clause type as in the case of *pV*-form clauses in (§ 3.4.2: 42).

■ PASSIVE *tV-N*-forms

tV-N-forms are used as passive verbs, or in other words, non-volitional intransitive verbs. They can be used as predicates of URI clauses with the constituent order [SV (OBL)] and as predicates of ANI clauses with [V OBL S] order. It is not obvious whether /tVn/-forms in (50b) are derived from *tV-N-* and /t/-initial bases, or from infix *-Vn-* and /t/-initial bases. The contrast between *tV-N-* and *-Vn-* is lost when *tV-* or *-Vn-* is attached to /t/-initial bases.

(50) a. *tV*-forms with /m, ŋ/-initial bases

*ta-**m**ahkat*	'to be taken (by)'	(*mahkat* 'to ask s.o. to go')
*ta-**m**oros*	'to be harmed'	(*moros* 'to harm')
*ta-**m**uhi*	'to be washed'	(*muhi* 'to wash')
*ta-**ŋ**aruhca*	'to be spat on'	(*ŋaruhca* 'to spit on')
*ta-**ŋ**onih*	'to be listened to'	(*ŋonih* 'to listen to')

b. *tV*/n/-forms (**tV-N-** or **-Vn-**)

tan*onih*	'to be taken into heart'	(*tonih* 'to be silent')
tan*otok*	'to be cut off'	(*totok* 'cut')
tan*utui*	'to be said'	(*tutui* 'words')
ton*apa*	'to be made'	(*tapa* 'making')
ton*ohto*	'to be looked at'	(*tohto* 'looking')

The actor argument *Aβo* functions as A in (51a), and the corresponding argument functions as OBL in (51b) and (51c). The undergoer argument *piŋjan* 'dish' functions as O in (51a), while the corresponding argument functions as S in (51b) and (51c).

(51) a. *Aβo muhi piŋjan* [AVO]
PSN to wash dish
'Awo washed the dishes'

b. *piŋjan* ***tam****uhi Aβo kai* [[S V OBL]$_{PASS}$]$_{URI}$
'The dishes were washed by Awo'

c. ***tam****uhi Aβo kai piŋjan* [[V OBL S]$_{PASS}$]$_{ANI}$
'Washed by Awo, were the dishes'

tV-N-passives are functionally and semantically similar to *-Vn-* passives. The *tV-N*-form *tamuhi* 'to be washed' in (51b) can be substituted for the *-Vn*-form *panuhi* 'to be washed' as in (52b) without altering the grammatical relations or the meaning. In other words, the correspondences A–OBL (*Aβo*) and O–S (*piŋjan*) in (51a–51b) are preserved in (52a–52b). In addition, the possible clause types of *tV-N-* passive and *-Vn-* passive are identical (URI/ARI).

(52) a. *Aβo muhi piŋjan* [AVO]
PSN to wash dish
'Awo washed the dishes'

b. *piŋjan* ***pan****uhi Aβo kai* [S V OBL]$_{PASS}$]$_{URI}$
'The dishes were washed by Awo'

c. ***pan****uhi Aβo kai piŋjan* [V OBL S]$_{PASS}$]$_{ANI}$
'Washed by Awo, were the dishes'

4 Conclusion

This paper provides a descriptive classification of affixes in Kadorih, which can be summarized in table form as in (53). Affix types (1st slot, infix, 2nd slot and plain) and clause types (actor-initial, action-initial and undergoer-initial) were introduced in order to systematize affix forms and to describe each clause.

(53) a. *A descriptive classification of affixes in Kadorih*

affix type	1st slot			infix	2nd slot	plain						
affix form	bV-	hV-		-Vn-	kV-	N-			pV-		tV-	
construction type	(ANTC)		RECP	PASS	(NOUN)				CAUS	(NOUN)	SPON	
transitivity	in	in	in	in	*	in		tr	tr	*	tr	in
volition	no	no	vo	no	*	no	vo	vo	vo	*	no	no
ARI clause	*	*	✓	*	*	✓	✓	✓	✓	*	✓	✓
ANI clause	*	*	*	✓	*	—	—	—	✓	*	✓	✓
URI clause	✓	✓	*	✓	*	—	—	—	*	*	*	*

(tr[ansitive], in[transitive], vo[litional], no[n-volitional])

b. *bV-* and *hV-* are 1st slot prefixes
c. *-Vn-* is an infix
d. *kV-* is a 2nd slot prefix
e. *N-*, *pV-* and *tV-* are not restricted to 1st or 2nd slot positions (i.e. they are plain prefixes)
f. *hV-/N-*forms can be used as volitional intransitive verbs
g. *bV-/hV-/-Vn-/N-/tV-*forms can be used as non-volitional intransitive verbs
h. *N-/pV-*forms can be used as volitional transitive verbs
i. *tV-*forms can be used as non-volitional transitive verbs
j. *kV-/pV-*forms can be used as nominals
k. *hV-/N-/pV-/tV-*forms can be used as predicates of actor-initial clauses
l. *-Vn-/pV-/tV-*forms can be used as predicates of action-initial clauses
m. *bV-/hV-/-Vn-* (and *tV-N-*) forms can be used as predicates of undergoer-initial clauses

From a phonological perspective, *N-* is considered to be an autosegmental prefix morpheme, unlike other affixes. It was observed that, in the case of *N-kV-*forms (§ 3.3), *N-* behaves like a floating feature [+nasal].

From a grammatical perspective, intransitive, semi-transitive and transitive predicates were described using *ah*, which refers anaphorically to a core argument. *pV-* and *tV-* forms can be used as predicates of actor-initial or action-initial clauses (53k, 53l). They are extraordinary in the respect that the grammatical relations of the arguments depend on the clause type.

List of abbreviations

✓ ..... exists
* ..... unacceptable
1 ..... 1st person
1+2 ..... inclusive 1
2 ..... 2nd person
3 ..... 3rd person
A ..... transitive subject
ADV ..... adverb
AH ..... *ah*
ANI ..... action initial
ANPH ... anaphoric marker
ANTC ..... anticausative
AR ..... actor
ARI ..... actor initial
AUX ..... auxiliary
C ..... Consonant
CAUS ..... causative
DEM ..... demonstrative
e.o. ..... each other
(in)tr. ..... (in)transitive
N .... Nasal feature / Noun
NEG ..... negatives
NP ..... Noun Phrase
O ..... transitive object
OBL ..... oblique element
PASS ..... passive
PL ..... plural
POST ..... postposition
PP ... Prepositional Phrase
PREP ..... preposition
PSN ..... person name
RECP ..... reciprocal
REL ..... relativizer
S ..... intransitive subject
SG ..... singular
s.o. ..... someone
SPON ..... spontaneous
s.t. ..... something
UR ..... undergoer
URI ..... undergoer initial
V ..... Vowel / Verb
VP ..... Verb Phrase

References

Bowden, John. 2001. *Taba: Description of a South Halmahera language.* Pacific Linguistics. Canberra: The Australian National University.

Dixon, R. M. W. 1994. *Ergativity.* Cambridge: Cambridge University Press.

Dixon, R. M. W. 1999. Semantic roles and syntactic functions: The semantic basis for a typology. In *CLS*, ed. Sabrina J. Billings, John P. Boyle, and Aaron M. Griffith, volume 2 of *35: Linguistic Theory & Diversity*, 323–341. Chicago: Chicago Linguistic Society.

Goldsmith, John A. 1976. Autosegmental phonology. Ph.D. dissertation, MIT.

Gordon, Raymond G. Jr., ed. 2005. *Ethnologue: Languages of the world.* SIL International. Online version [Accessed 17 May 2006]: `http://www.ethnologue.com/web.asp`, 15th edition.

Hudson, Alfred B. 1967. *The Barito isolects of Borneo: A classification based on comparative reconstruction and lexicostatistics.* Ithaca, New York: Department of Asian Studies, Cornell University.

Inagaki, Kazuya. 2005a. Dohoi/Kadori-go no on'in-go (Phonological word in Dohoi/Kadorih). Manuscript: Kyoto University.

Inagaki, Kazuya. 2005b. Phonemic sketch of Dohoi/Kadorih. *Kyoto University Linguistic Research* 24:15–43.

Meyers, Jim, Heather Meyers, Ben Rice, and Susan Rice. 2003. *Report on the Seruyan river surveys in Central Kalimantan (Kohin, Keninjal and Sebaun (Dohoi) Languages).* SIL Electronic Survey Reports 2003-017. SIL International. Online [Retrieved 17 May 2005]: `http://www.sil.org/silesr/2003/silesr2003-017.pdf`.

Riwut, Tjilik. 1993. *Kalimantan membangun: Alam dan kebudayaan.* Yogyakarta: Tiara Wacana Yogya.

Santoso, R. Budi, Surya Taib, and Dadang Lorida. 1984. *Struktur bahasa Ot Danum*. Departemen Pendidikan dan Kebudayaan. (Proyek Penelitian Bahasa dan Sastra Indonesia dan Daerah Kalimantan Tengah).

Shibatani, Masayoshi. 1985. Passives and related constructions. *Language* 61:821–848.

Stokhof, W. A. L., ed. 1986. *Holle lists: Vocabularies in languages of Indonesia*, volume 8 (Kalimantan (Borneo)) of *Pacific Linguistics Series D – No. 69*. Canberra: Dept. of Linguistics, Research School of Pacific Studies, Australian National University.

Taib, Surya, Ny. Anneke Erland, and Sumardi Saragih. 1990. *Morfosintaksis bahasa Ot Danum*. Jakarta: Departemen Pendidikan dan Kebudayaan. (Pusat Pembinaan dan Pengembangan Bahasa).

Tida, Syuntarô. 2006. A grammar of the Dom language: A Papuan language of Papua New Guinea. Ph.D. dissertation, Kyoto University.

Yip, Moira. 2002. *Tone*. Cambridge: Cambridge University Press.

カドリ語形態統語法の概略

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Abstract

本論文は、これまで明らかにされていなかったカドリ語の形態法と形態統語法を記述したものである。

§2.1 では、接辞の形式と、接辞添加のプロセスを音韻論的に同定した。続く §2.2 で、複合的な接辞を形態音韻論的に分析し、この分析を基にした接辞の 4 分類を提案した。即ち、語基の左側にスロットを認め、i) 第 1 スロットの接頭辞、ii) 接中辞、iii) 第 2 スロットの接頭辞、iv) 特に制限のない接頭辞の 4 タイプに分けた。§2.3 では、語順による節の 3 分類を提案した。即ち、動作主構成素を節の先頭に置く動作主先置節や、動作先置節、被動作主先置節の 3 タイプに分けた。

§3 では、それぞれの接辞のタイプや形式、他動性、意志性、可能な節タイプ等の点から、接辞が形成する語の記述をおこなった。特に、*pV*-形と *tV*-形は、それがとる節のタイプによって文法関係のわりあてが異なることを指摘した。

§3 における記述の要約として、§4 で、接辞を特徴別にまとめた一覧をしめした。

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